



August 24, 2007

VIA DHL

Mr. Russell H. Fish
The United States Environmental Protection Agency, Region 3
Waste and Chemicals Management Division (3WC23)
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Dear Mr. Fish:

Enclosed is one (1) copy of the Sediment Management Work Plan (Revision 01) for the Former Viasystems Facility, located at 4500 South Laburnum Avenue, in Richmond, Virginia. The Work Plan was revised to incorporate the comments that you conveyed by letter, dated August 16, 2007, and by email on August 17, 2007.

If you have any questions, please do not hesitate to contact our office. Thank you.

Sincerely,
Partners Environmental Consulting, Inc.

John T. Blackman, CPG
Senior Project Manager

cc: Robert Timmins, Virginia DEQ
Marianne Santarelli, LSI Corporation
Steve Szewczyk, Forest City
Don Mayer, Earth Tech

File: 576.01F T2



**SEDIMENT MANAGEMENT WORK PLAN
(Revision 01)**

**Former Viasystems Facility
4500 South Laburnum Avenue
Richmond, Virginia**

August 24, 2007

Prepared For: Forest City Construction LSI Corporation
1005 Terminal Tower 1110 American Parkway NE
50 Public Square Room 12J310
Cleveland, Ohio 44113 Allentown, Pennsylvania 18103

And

The United States Environmental Protection Agency – Region 3
c/o Mr. Russell H. Fish
Waste and Chemicals Management Division (3WC23)
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Prepared By: Partners Environmental Consulting, Inc.
31100 Solon Road – Suite G
Solon, Ohio 44139

This report has been prepared by Partners Environmental Consulting, Inc. (Partners) for the benefit of our Client in accordance with the approved scope of work. Partners assumes no liability for the unauthorized use of information, conclusions or recommendations included in this report by a third party. Copyright © 2007, Partners Environmental Consulting, Inc.

Partners Environmental Consulting, Inc.

Corporate Office: 31100 Solon Road, Suite G • Solon, Ohio 44139 • phone: (440) 248.6005 • fax: (440) 248.6374
Offices in Maryland

TABLE OF CONTENTS

1.0	INTRODUCTION	1
2.0	BACKGROUND	1
2.1	Decommissioning Information	1
2.2	Prior Sampling Activities – May 2006	1
2.3	USEPA Release Notification	2
2.4	Sediment and Soil Sampling Activities – April 2007	3
2.5	Water Sampling Activities – April 2007	3
3.0	CONCEPTUAL APPROACH	3
4.0	MATERIAL CHARACTERIZATION	4
4.1	Concrete and Structural Steel	4
4.1.1	Concrete	5
4.1.2	Structural Steel	5
4.2	Sediment Characterization	6
4.2.1	Piping Trenches and WWTP Tanks	6
4.2.2	De-Watering Box Sediments	6
4.3	Former Process Pipe Residual Materials	7
4.4	Process Pipe Staging Area Soil	7
5.0	COMPARISON STANDARDS	8
5.1	Concrete and Structural Steel	8
5.2	Sediments	8
5.3	Former Process Piping Residuals	8
5.4	Piping Staging Area Soil	8
5.4.1	Excavated Soils	8
5.4.2	Residual Soils	8
6.0	MATERIAL MANAGEMENT	9
6.1	Concrete	9
6.1.1	Re-Use On-Site	9
6.1.2	Off-Site Disposal – C&D or Subtitle D Landfill	9
6.1.3	Off-Site Disposal – Hazardous Waste Facility	9
6.2	Structural Steel	9
6.3	Sediments	9
6.4	Former Process Piping	9
6.5	Process Pipe Staging Area Soil	10
7.0	REPORTING	10

FIGURES

Figure 1 Sediment Management Work Plan Areas

TABLES

Table 1 Waste Disposal Standards
Table 2 Pipe Staging Area Soil Standards

APPENDICES

Appendix A Summary Table of Decommissioning Analytical Results – 2002
Appendix B May 2006 Laboratory Report
Appendix C April 24, 2007 Memorandum to the USEPA
Appendix D Summary Table of April 2007 Analytical Results
Appendix E April 2007 Laboratory Report – Earth Tech
Appendix F April 2007 Laboratory Report – Schnabel
Appendix G Work Plan for Removal of Process Piping – Earth Tech
Appendix H Portion of 40 CFR 268.45 (Clean Debris Surface)

1.0 INTRODUCTION

Partners Environmental Consulting, Inc. (Partners) has prepared the following Sediment Management Work Plan (Work Plan) on behalf of Forest City Commercial Development (Forest City), LSI Corporation (LSI), and the United States Environmental Protection Agency (USEPA), Region 3, for the facility located at 4500 South Laburnum Avenue, Richmond, Virginia (Property). The purpose of this document is to address and resolve environmental and regulatory issues related to a release of materials at the Property on April 14, 2007. This Work Plan presents the methodology and rationale to adequately characterize specific materials associated with the release and to generally describe the proposed cleanup methods for such materials.

This document has been prepared to address reporting requirements and interim measures prescribed in the Administrative Order to Lucent Technologies, United States Environmental Protection Agency (USEPA) Docket No. RCRA-III-084-CA.

In a letter, dated August 16, 2007, Mr. Russell H. Fish of the USEPA stated that the Work Plan is a required deliverable pursuant to Section VI.F of the Administrative Order. As such, the Work Plan must be certified in accordance with Section VI.G.6 of the Order. Forest City and LSI will submit certifications to the USEPA to comply with Section VI.G.6 of the Order.

Section 2.0 presents a brief description of background information relative to activities associated with this Work Plan. Environmental activities being conducted at the Property that are not the subject of this Work Plan will not be discussed further in this document.

The procedures and methodologies employed under this Work Plan are presented in concert with the Water Management Work Plan that was prepared for Forest City by ECOR Solutions, Inc. (dated May 1, 2007), and the *Soil Management Environmental Work Plan (dated May 8, 2006) and Amendment (dated June 29, 2006)* that were prepared for Forest City by Partners. The *Soil Management Environmental Work Plan and Amendment* (collectively referred to as the *Soil Management EWP*) were submitted to and approved by the USEPA and the Virginia Department of Environmental Quality (DEQ). The Water Management Work Plan was reviewed by the USEPA who had no objections to the Water Management Work Plan.

The management and disposal of storm water and groundwater contained in the trenches and former wastewater treatment tanks was completed in June 2007 and was conducted in accordance with the Water Management Work Plan.

2.0 BACKGROUND

The following sections provide background information relative to the activities described in the Work Plan.

2.1 Decommissioning Information

The former process piping at the facility (including the piping in Trenches 1-6 and further described in **Section 4.3**) was cleaned by Clean Harbors Environmental Services, Inc. (Clean Harbors) during plant closure activities conducted in 2001. Clean Harbors prepared a "*Final Report*", dated November 6, 2001, which documents the pipe cleaning activities. As described in the Clean Harbors' report, the piping was broken as needed and cleaned using a 3,000 pounds per square inch (psi) hot water pressure washer fitted with sewer tip attachments. This method allowed the pressure washer hose to be snaked through each line using the sewer tip attachment to jet out hot water in a 360 degree spray. After the lines were washed, the lines were flushed with potable water and a rinse water sample was obtained from each line. The rinse samples were analyzed for metals and pH. The rinse waters were routed through the Wastewater Treatment Plant (WWTP) for processing. The results of the rinse samples collected during this process are summarized in **Appendix A**.

2.2 Prior Sampling Activities – May 2006

In May 2006, Viasystems' environmental consultant (Earth Tech) identified seven (7) pipes that still contained sediment/residue (between 1/8-inch and 1/2-inch thick) and collected samples of this residual

material for waste characterization purposes. The following table lists the pipe identification (ID), location, size and the materials previously carried in each pipe based on labels or markings observed on each pipe. The sample locations are depicted on **Figure 1**.

PIPE ID	TRENCH	LINE SIZE/COMPOSITION	MARKING/LABELS OBSERVED ON THE PIPES
141 East	6	4-inch PVC	Chrome Solutions
142 East	6	10-inch steel	Dilute Acid/Alkali Rinse from Chemical Processes
144 East	6	6-inch steel	Aqueous Developers, Strippers and their Rinses
149 East	6	6-inch steel	Aqueous Developers, Strippers and their Rinses
42 West	1, 2, 3 & 4	10-inch steel	Dilute Acid/Alkali Rinse from Chemical Processes
42 Northwest	5	10-inch steel	Dilute Acid/Alkali Rinse from Chemical Processes
Buried Pipe Near Guard Shack	Between 2 & 3	10-inch steel	Unknown

The samples were submitted to a Virginia-certified laboratory for pH, eight (8) Resource Conservation Recovery Act (RCRA) Metals and Toxicity Characteristic Leaching Procedure (TCLP) Metals analysis. The results indicated that the residuals (sediments) located in all of the piping were not characteristically hazardous as defined by 40 CFR Part 261. The analytical results and the laboratory reports are presented in **Appendix B**.

2.3 USEPA Release Notification

On April 18 and 19, 2007, LSI Corporation, the successor in interest to Agere Systems, verbally notified the USEPA that two (2) releases occurred at the Property on Saturday, April 14, 2007. The releases were initially observed by LSI's contractor (Earth Tech) on Monday, April 16, 2007. A formal written notification was submitted to the USEPA by LSI in a memorandum dated April 24, 2007. A copy of the memorandum is included as **Appendix C**.

The releases occurred during unauthorized demolition activities that were conducted out of sequence by Hayes Demolition Services (Hayes), a subcontractor to ECOR Solutions, Inc. (ECOR), who is subcontracted to FG Pruitt Inc. (FG Pruitt), the demolition and grading contractor for Forest City.

Release #1 occurred when discharge piping from extraction well EW9 to the groundwater treatment system (GWTS) was broken during demolition activities. The damage disabled the EW9 well pump, and broke the junction where the EW9 discharge pipe ties into the common header pipe, approximately 100 feet downstream from the demolition. The break resulted in an estimated 70,000 gallons of untreated groundwater to discharge into the concrete pipe trench (Trench #1) and subsequently flow into a series of subsurface concrete containment structures identified on **Figure 1** and Tanks 1, 2 and 3. All released groundwater was contained in concrete structures and not released into the environment.

Release #2 occurred when some of the former process piping was removed and staged in a manner that allowed residuals (sediments) in the piping to spill into the concrete trenches and onto the ground

surface of the staging area. The residuals were dry sediments that remained in the former process piping after it was reportedly cleaned when the former Viasystems facility closed as described in **Section 2.1**. Samples of the residuals in the former process piping collected by Earth Tech in May 2006 detected heavy metals including arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver.

On April 20, 2007, sediment and liquid samples were collected for analysis by Earth Tech from the trenches, and from the WWTF containment structures where the release appeared to flow. One (1) soil sample was also collected from the pipe staging area for analysis. Duplicate samples were also collected by an independent third-party environmental consultant (Schnabel Engineering South LLC), who was contracted by FG Pruitt to collect duplicate samples.

Analytical results are discussed in **Section 2.4** and are summarized in **Appendix D** of this Work Plan.

2.4 Sediment and Soil Sampling Activities – April 2007

On April 20, 2007, Earth Tech collected sediment samples from the trenches to assess impacts resulting from the disturbed former process piping and holding tanks impacted by the untreated groundwater. Three (3) composite sediment samples (Trench 1-A, Trench 2-A and Trench 3-A) were collected from the lowest portion of each trench, where the majority of sediment was deposited. The sample locations are depicted on **Figure 1**.

Sediment samples were submitted to Air, Water and Soil Laboratories, Inc. (AWS) for RCRA 8 Metals analysis by USEPA Methods 6010B and 7470A. In addition to RCRA 8 Metals analysis, Schnabel also submitted two (2) composite sediment samples (Trench 1 Comp and Trench 2 Comp) to AWS for Volatile Organic Compound (VOC) analysis by USEPA Method 8260.

One (1) composite surface soil sample (Staging 1) was collected by Earth Tech from the area where the former process piping was staged following April 14, 2007, demolition activities to assess potential impacts to the staging area soil. The surface soil sample was submitted to AWS for RCRA 8 Metals analysis by USEPA Methods 6010B and 7470A. In addition to RCRA 8 Metals analysis, Schnabel also submitted the composite sediment sample (Staging 1 Comp) for VOC analysis by USEPA Method 8260.

The purpose of this sampling event was to evaluate the materials for evidence of contamination, not to characterize them for disposal purposes.

Analytical results from the sediment and soil samples collected by Earth Tech and Schnabel indicated that several chemicals of concern (COCs) were present at levels above the USEPA Region 3 Soil Screening Levels (SSLs) and/or above USEPA Region III Risk-Based Concentration (RBC) for residential sites.

Analytical results are summarized in the table located in **Appendix D**. Laboratory analytical reports from Earth Tech and Schnabel are located in **Appendix E** and **Appendix F**, respectively.

2.5 Water Sampling Activities – April 2007

On April 20, 2007, Earth Tech collected three (3) water samples from the holding tanks (Tank 1, Tank 2 and Tank 3) and two (2) water samples from the trenches (Trench 1 and Trench 2) impacted by the untreated groundwater. The sample locations are depicted on **Figure 1**.

Water samples were submitted to AWS for RCRA 8 Metals analysis by USEPA Methods 6010B and 7470A and VOC analysis by USEPA Method 8260. The laboratory report for the water samples is located in **Appendix E**.

3.0 CONCEPTUAL APPROACH

The methodology described under this Work Plan will be implemented to characterize and appropriately manage materials (see **Section 4.0**) that may have been impacted by the April 14, 2007, releases in the areas depicted on **Figure 1**. Based on prior characterization activities and discussions with USEPA personnel, the materials associated with this Work Plan are not Listed Hazardous Wastes, as defined

by 40 CFR 261.30. Prior analytical data for the process piping indicated that the residuals in the process piping were not characteristically hazardous, as defined by 40 CFR 261.24.

Prior analytical data, in conjunction with analytical data collected during implementation of this Work Plan, will be used to demonstrate that the materials to be managed under this Work Plan are not hazardous wastes and will not have to be disposed of at a Subtitle C landfill. However, the data collected also indicates that the materials, in their present state, are impacted with one or more heavy metals, thus requiring special handling and management. As such, the contractor selected to implement this Work Plan will be responsible for adhering to the methodology and goals of this Work Plan and will be responsible for developing an appropriate health and safety plan to perform the work described in this Work Plan.

4.0 MATERIAL CHARACTERIZATION

Based on the reported releases, four (4) materials at the Property have been identified that may have been impacted due to the releases. This Work Plan describes the methodology to adequately characterize the potentially impacted materials and the procedures to properly manage handling and disposal of the materials in accordance with all local, state and federal regulations.

These four (4) materials include the following:

1. Concrete and Structural Steel.
2. Sediments, crushed concrete and/or soil located in the concrete piping trench, sediment/sludge de-watering box, and, the WWTP Tanks 1, 2, and 3.
3. Residual Materials in Former Process Piping.
4. Soil in the Process Piping Staging Area.

The locations of the four (4) subject materials are depicted on **Figure 1** and are color-coded as described below. The impacted trenches (Trench 1, 2, 3, 4 and 5) are shaded in yellow. The impacted WWTP "tanks" (Tank 1, Tank 2, and Tank 3) are shaded in blue. The impacted former process piping staging area is shaded red. The un-impacted trench (Trench 6) is shaded green.

Trench 6 was not impacted as a result of the releases. Based on the results of a conversation on July 13, 2007, between the USEPA, Partners and Earth Tech, the USEPA verbally concurred that this Work Plan does not need to address trenches containing former process piping that were not impacted by this release (Green Area on **Figure 1**). Concrete in Trench 6 will be managed in accordance with the existing and approved *Soil Management EWP*. The intact former process piping will be managed in accordance with the Pipe Management Work Plan prepared by Earth Tech, which is discussed in **Section 4.3.2** and provided in **Appendix G**.

The remainder of this Work Plan describes how the four (4) materials in the impacted trenches, tanks and staging area will be managed. Sediments, crushed concrete and soil will be collectively identified in this Work Plan as Sediments.

4.1 Concrete and Structural Steel

The materials to be characterized in this section of the Work Plan include the concrete walls and floor of the existing trenches, concrete rubble, structural steel in the trench and steel rebar located within the concrete rubble. The materials will be characterized by collecting a representative number of concrete samples for laboratory analysis and by visually inspecting the steel materials for indications of contamination. Concrete sample locations will be biased toward areas that are visibly stained or discolored. The structural steel will be visually inspected in accordance with the "clean debris surface" standard, which is defined as a "surface, when viewed without magnification, shall be free of all visible contaminated soil and hazardous waste except that residual staining from soil and waste consisting of light shadows, slight streaks, or minor discoloration and soil and waste in cracks crevices and pits may be present provided that such staining and waste and soil in cracks, crevices and pits shall be limited to no more than 5% of each square inch of surface area" (40 CFR 268.45). The relevant portion of 40 CFR 268.45 is located in **Appendix H**.

4.1.1 Concrete

A majority of the concrete is not suspected of being impacted with sediments as a result of the release. All concrete will be visually inspected in accordance with the "clean debris surface" standard for indications of any impacts.

If acceptable levels (less than 5% of each square inch of surface area) of residual contamination are identified on the concrete surfaces, the concrete will be classified as "clean" and managed in accordance with **Sections 6.1.1 or 6.1.2**.

If residual contamination is identified at levels that exceed the "clean debris surface" standard, the concrete will be power washed using appropriate equipment, re-inspected and, if acceptable, will be classified as "clean" and managed in accordance with **Sections 6.1.1 or 6.1.2**. The process inspecting, cleaning and re-inspecting will be repeated until the concrete is clean or until the material is deemed to require disposal off-site. If determined to be clean and re-used on-site as backfill, no additional sampling or characterization activities are necessary.

All wash water generated during the power washing procedures will be collected, containerized, characterized and managed in accordance with the procedures described in **Section 4.2**. Wash water collected during this process will be managed in accordance with the procedures established in the Water Management Work Plan.

Concrete that fails to meet the clean surface standard will be managed in accordance with **Sections 6.1.2 or 6.1.3**. Prior to transporting the material off-site, concrete samples will be collected in the field following the coring procedures outlined 40 CFR 761. Following this methodology will enable the material to be adequately characterized and thereby properly managed. Samples will be handled, managed, and transported to the laboratory in general accordance with the Field Standard Operating Procedures (FSOPs) presented in Appendix E of the *Soil Management EWP*. Any revisions or modifications (if necessary) to the FSOPs will be documented by the field staff.

Concrete samples will be submitted to a Virginia-certified laboratory for the following analyses. The concrete samples will be grab samples, not composite samples.

- Toxicity Characteristic Leaching Procedure (TCLP) Metals by USEPA Methods 6010 and 7470/7471.
- TCLP VOCs by USEPA Method 8260.
- Corrosivity by USEPA Method 9045.
- Reactive Cyanide and Sulfide by USEPA Methods 9030 and 9012, respectively.
- Ignitability by USEPA Method 1010.
- Total RCRA 8 Metals by USEPA Methods 6010 and 7470/7471 (if required by the disposal facility).

4.1.2 Structural Steel

The structural steel described in this section of the Work Plan does not include the steel process piping. Steel process piping is discussed in **Section 4.3**.

The structural steel (i.e., grating, stairways, rebar, etc.) is not suspected of being impacted with sediments as a result of the release. The steel will be visually inspected in accordance with the "clean debris surface" standard for indications of any impacts.

If acceptable levels (less than 5% of each square inch of surface area) of residual contamination are identified on the steel surfaces, the materials will be classified as "clean" and recyclable metal. The clean metal will be transported to a metal recycling facility (see **Section 5.2**).

If residual contamination is identified at levels that exceed the "clean debris surface" standard, the steel will be power washed using appropriate equipment, re-inspected and, if acceptable, will be classified as "clean" and recyclable metal. The clean metal will be transported to a metal recycling facility. The

inspection, decontamination and re-inspection process will be repeated until the material can be classified as "clean". All sediments generated during the power washing procedures will be collected, containerized, characterized and managed in accordance with the procedures described in **Section 4.2**. Wash water collected during this process will be managed in accordance with the procedures established in the Water Management Work Plan.

No additional sampling will be conducted to characterize the steel.

4.2 Sediment Characterization

Removal of the impacted water as a result of the release has been completed and was conducted in accordance with the Water Management Work Plan. Based on the activities conducted under the Water Management Work Plan, sediments located in Trenches 1 through 5, the de-watering box (including filters) and the WWTP tanks (Tanks 1, 2, and 3) will require removal, characterization and proper management. This section describes the procedures to address the sediments in these areas.

4.2.1 Piping Trenches and WWTP Tanks

Sediments that have accumulated in the concrete Trenches 1 through 5 and the concrete WWTP Tanks 1, 2, and 3 will be removed and containerized for proper management. Sediments will be removed by utilizing a high-pressure power washing system. The sediments will be collected, containerized, characterized and properly managed. The wash water will be pumped through a 1-micron filter to remove sediment prior to being discharged to the Henrico County POTW in accordance with the Water Management Work Plan.

After removal of the sediments, each area will be visually inspected in accordance with the clean debris standard (see **Section 4.1.2**). If residual contamination is identified at levels that exceed the "clean debris surface" standard, the concrete will be power-washed again and re-inspected. If the concrete meets the clean debris surface standard, the concrete will be classified as clean and managed accordingly (see **Section 4.1.1**). The inspection, power-washing and re-inspection process will be repeated until the material can be classified as "clean" or until the material is deemed to require disposal off-site.

A minimum of three (3) representative sediment samples will be collected from the accumulated sediments and submitted to a Virginia-certified laboratory for the following analyses. The sediment samples will be grab samples, not composite samples.

- TCLP Metals by USEPA Methods 6010 and 7470/7471.
- TCLP VOCs by USEPA Method 8260.
- Corrosivity by USEPA Method 9045.
- Reactive Cyanide and Sulfide by USEPA Methods 9030 and 9012, respectively.
- Ignitability by USEPA Method 1010.
- Total RCRA 8 Metals by USEPA Methods 6010 and 7470/7471 (if required by the disposal facility).

Sediment samples will be collected, managed and shipped in accordance with Partners' FSOPs located in Appendix E of the *Soil Management EWP*. FSOP No. 022 will be slightly modified to reflect that sediment, not soil samples, will be collected for laboratory analysis. Revisions and/or deviations to the FSOP will be documented by field staff. These slight revisions to FSOP No. 022 are not expected to prevent the accomplishment of the overall goals of this Work Plan.

Wash water collected during this process will be managed in accordance with the procedures established in the Water Management Work Plan.

4.2.2 De-Watering Box Sediments

One (1) de-watering box, equipped with a sediment filter, was used in the final stages of managing stormwater and groundwater under the Water Management Work Plan. Filters (1-micron and 200-micron) were used to remove sediment from the stormwater and groundwater prior to being discharged

to the Henrico County Publicly-Owned Treatment Works (POTW) in accordance with the approved Water Management Work Plan. As a result of this activity, the sediments and filters accumulated within the de-watering box will require characterization and proper management.

One (1) sediment sample from the de-watering box will be collected and submitted for the following analyses. The de-watering box sediment sample will be a grab sample, not composite sample.

- TCLP Metals by USEPA Methods 6010 and 7470/7471.
- TCLP VOCs by USEPA Method 8260.
- Corrosivity by USEPA Method 9045.
- Reactive Cyanide and Sulfide by USEPA Methods 9030 and 9012, respectively.
- Ignitability by USEPA Method 1010.
- Total RCRA 8 Metals by USEPA Methods 6010 and 7470/7471 (if required by the disposal facility).

The sediment sample will be collected, managed and shipped will be conducted in accordance with Partners' FSOPs located Appendix E of the *Soil Management EWP*. FSOP No. 022 will be slightly modified to reflect that sediment, and not a soil sample, will be collected for laboratory analysis. Revisions and/or deviations to the FSOP will be documented by field staff. These slight revisions to FSOP No. 022 are not expected to prevent the accomplishment of the overall goals of this Work Plan.

4.3 Former Process Pipe Residual Materials

Approximately 3,500 linear feet of former process piping remains at the facility (**Figure 1**). Approximately 1,500 linear feet of non-intact former process piping is located in impacted Trenches 1-5 and the process pipe staging area. Approximately 2,000 linear feet of intact former process pipe is located in unimpacted Trench 6. The former process piping is discussed in more detail in the Work Plan for Process Piping Removal in **Appendix G**.

Review of the prior analytical data indicated that no further waste characterization appears to be necessary to manage the disconnected former process piping located in Trenches 1 through 5. The analytical results from the former process piping in the five (5) trenches confirm that the residuals located in the piping are not hazardous.

The analytical results are summarized in **Appendix D** and sample locations are depicted on **Figure 1**. Laboratory analytical reports are located in **Appendix E** and **F**.

4.4 Process Pipe Staging Area Soil

Soils located at the process pipe staging area, which were removed from the trenches on April 14, 2007, may be impacted with residuals released from the former process piping that is temporarily staged in this area. To determine if the staging area has been impacted, shallow soil samples will be collected in accordance with the *Soil Management EWP* after removing the upper approximately six (6) inches of soil. The upper approximately six (6) inches of soil will be removed, placed into a roll-off container and sampled for waste characterization purposes.

For estimating purposes, Partners believes that approximately 46 cubic yards (yd³) of soil will be placed into four (4) roll-off containers from this activity. One (1) representative soil sample will be collected and submitted to a Virginia-certified laboratory for the following analyses. The soil sample will be a grab sample, not a composite sample.

- TCLP Metals by USEPA Methods 6010 and 7470/7471.
- TCLP VOCs by USEPA Method 8260.
- Corrosivity by USEPA Method 9045.
- Reactive Cyanide and Sulfide by USEPA Methods 9030 and 9012, respectively.
- Ignitability by USEPA Method 1010.

- Total RCRA 8 Metals by USEPA Methods 6010 and 7470/7471 (if required by the disposal facility).

After removal of the upper six (6) inches of soil, six (6) soil samples will be collected from randomly chosen areas in accordance with the soil sampling methodologies and FSOPs presented in the *Soil Management EWP*. Soil sampling activities will be biased towards any areas showing soil discoloration or staining. Soil samples will be collected and submitted to a Virginia-certified laboratory for the following analyses. The soil samples will be grab samples, not composite samples.

- 40 CFR Part 261 Appendix IX Metals (antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, nickel, selenium, silver, thallium, tin, vanadium and zinc) by USEPA Methods 6010B and 7470/7471.
- Total VOCs by USEPA Method 8260.
- pH by USEPA Method 9040A.

Soil and Quality Assurance and Quality Control (QA/QC) samples will be collected, handled, managed and shipped in accordance with Partners' FSOPs located Appendix E of the *Soil Management EWP*. Any modifications or deviations to the FSOPs will be documented by the field staff.

5.0 COMPARISON STANDARDS

The comparison standards that will be used for waste disposal characterization, and for verification after cleanup in the pipe staging area, are discussed in the following sections. The disposition of the materials, based on the analytical results, is discussed in **Section 6.0**.

5.1 Concrete and Structural Steel

The clean debris surface standard will be used for concrete and structural steel. Concrete that does not meet the clean debris surface standard will be sampled in accordance with **Section 4.1.1**. The analytical results will be compared to the waste disposal standards summarized in **Table 1**.

5.2 Sediments

The analytical results for sediments will be compared to the waste disposal standards summarized in **Table 1**.

5.3 Former Process Piping Residuals

Prior analytical results have already been compared to TCLP limits established under 40 CFR 261.24 and been determined not to be hazardous (see **Section 4.3**).

5.4 Piping Staging Area Soil

5.4.1 Excavated Soils

The analytical results for the upper approximately six (6) inches of soil removed and placed in the roll-off containers will be compared to the waste disposal standards summarized in **Table 1**.

5.4.2 Residual Soils

Analytical results for residual soil samples collected after removal of the upper six (6) inches will be initially compared to the USEPA Region III SSLs and to USEPA Region III RBCs (residential and industrial). Metals naturally occur in soil and because metals are the primary COCs, the naturally occurring background concentration of metals in soil will be used for comparison purposes. Therefore, the determination that residual soils meet applicable standards may be made through a comparison of the analytical results against published standards, physical conditions, and publicly available data under a "weight of evidence" demonstration.

Partners will utilize background metals concentrations in sediments for Henrico County, Virginia, published by the United States Geological Survey (USGS), in the National Geochemical Survey (NGS), as cleanup goals for metals other than arsenic, which is addressed below. The mean plus two (2) standard deviations will be used as the upper limit of natural background concentrations. For lead, the

upper limit of background concentrations calculated in this manner is 46.4 ppm. Background concentrations for other metals may be calculated from the NGS data, or site-specific background determinations may be conducted. The site-specific background determined for arsenic (discussed below) will be utilized.

Partners conducted a site-specific arsenic background determination, the results of which were presented in a report titled, "Background Concentration of Arsenic in Surficial Soil," dated September 28, 2006. The site-specific arsenic background determination conducted by Partners included twenty-five (25) soil samples collected from an undeveloped (undisturbed) area of the Property. The maximum estimated, site-specific background concentration (5.0 ppm) is equal to the average concentration of arsenic in soil in Virginia, reported by the Virginia Department of Health.

The comparison standards for soil remaining in the pipe staging area, after removal of approximately six (6) inches of surficial soil, are summarized in **Table 2**.

6.0 MATERIAL MANAGEMENT

The four (4) identified materials associated with this Work Plan will be managed in accordance with the existing analytical results or based on the additional sampling activities described in **Section 4.0**. The materials will also be managed in accordance with all applicable local, state (Commonwealth of Virginia) and federal regulations.

6.1 Concrete

Concrete that is classified as non-hazardous and visually clean will be managed in accordance with one (1) or more of the following approaches. The concrete will be managed, as presented in the following sections, upon approval of, or no objection to, this Work Plan by the USEPA and Virginia DEQ.

6.1.1 Re-Use On-Site

Concrete classified as non-hazardous, visually clean and meets the clean debris surface standard will be segregated from concrete managed under **Sections 6.1.2** or **6.1.3** and transported to a designated area located on-site to be crushed for beneficial re-use on-site as backfill.

6.1.2 Off-Site Disposal – C&D or Subtitle D Landfill

If concrete is classified as non-hazardous, but is not visually clean and cannot be cleaned, the materials will be transported to a C&D or Subtitle D landfill, as appropriate, for disposal.

6.1.3 Off-Site Disposal – Hazardous Waste Facility

In the unlikely event that concrete is identified as a hazardous waste, it will be transported to a permitted hazardous waste disposal facility, following measures described in the *Soil Management EWP*.

6.2 Structural Steel

Structural steel that is classified as visually clean will be transported off-site to a metal recycling facility for re-use.

6.3 Sediments

Sediments that are characterized as non-hazardous will be transported to a permitted Subtitle D landfill for disposal.

In the unlikely event that sediments are identified as a hazardous waste, they will be transported to a permitted hazardous waste disposal facility, following measures described in the *Soil Management EWP*.

6.4 Former Process Piping

All former process piping will be managed in accordance with the Pipe Management Work Plan located in **Appendix G**. All former process piping will be transported as non-hazardous waste to a permitted Subtitle D landfill for disposal.

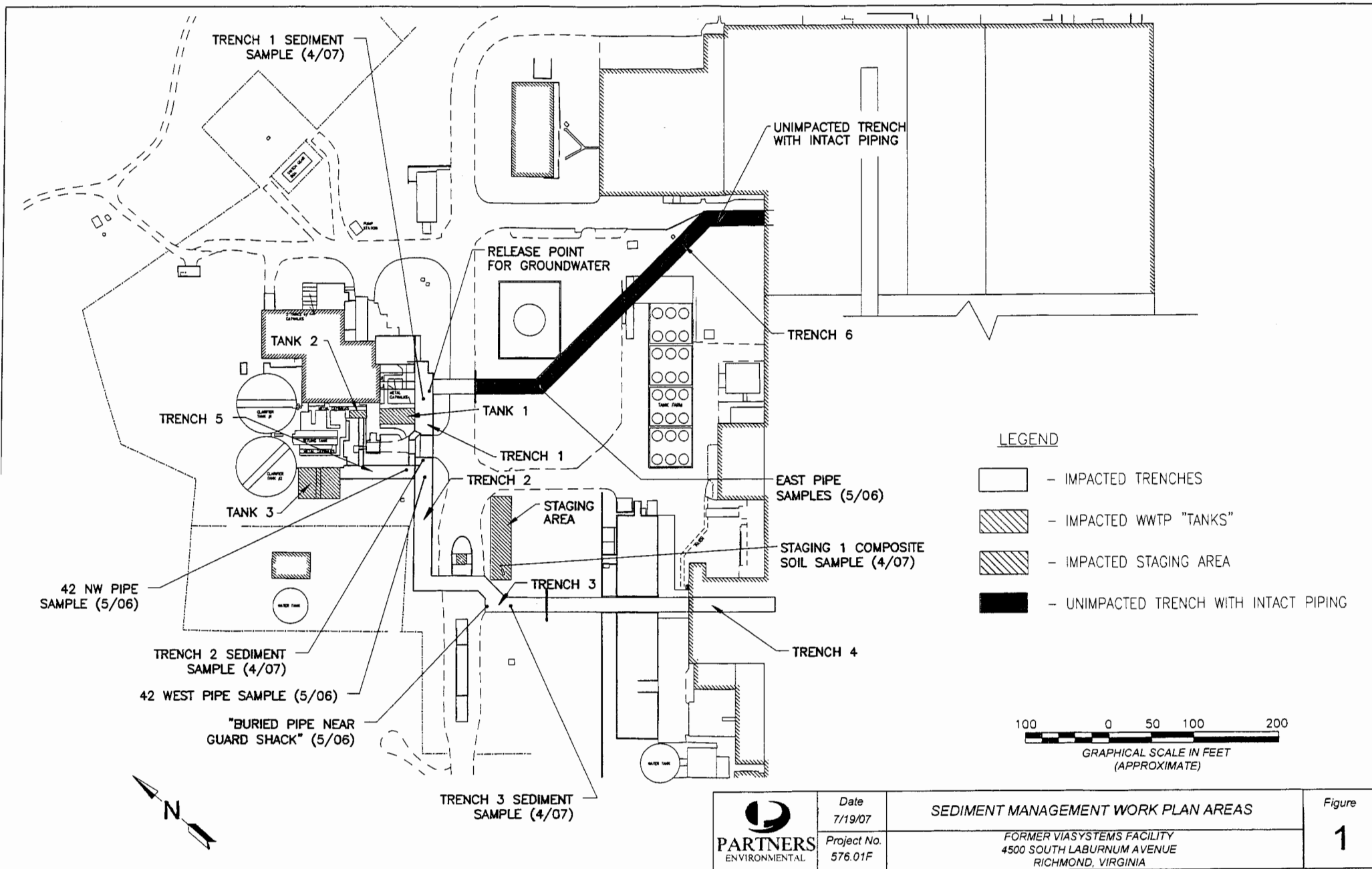
6.5 Process Pipe Staging Area Soil

Soils will be managed in accordance with the *Soil Management EWP*.

7.0 REPORTING

A final report will be prepared for submittal to the USEPA and Virginia DEQ upon completion of the activities presented in this Work Plan. The report will document the methodologies employed, the analytical results from the various sampling activities, a comparison of the analytical results to the standards presented in **Tables 1 and 2**, the disposition of all wastes, and the conclusions based on the results obtained during these activities. Supporting documentation will also be provided, including figures that show sample and remediation locations, analytical results, photographs, etc.

FIGURES



TABLES

TABLE 1
WASTE DISPOSAL STANDARDS

TCLP VOCs	Regulatory Limit (mg/l)
Benzene	0.5
Carbon tetrachloride	0.5
Chlorobenzene	100
Chloroform	6
1,4-Dichlorobenzene	7.5
1,2-Dichloroethane	0.5
1,1-Dichloroethylene	0.7
Methyl ethyl ketone	200
Tetrachloroethylene	0.7
Trichloroethylene	0.5
Vinyl chloride	0.2
TCLP Metals	Regulatory Limit (mg/l)
Arsenic	5
Barium	100
Cadmium	1
Chromium	5
Lead	5
Mercury	0.2
Selenium	1
Silver	5
Reactivity	Regulatory Limit (mg/kg)
Cyanide (as HCN)	250
Sulfide (as H ₂ S)	500
Corrosivity	
pH (1)	<2 or >12.5
Ignitability	Degrees F
Flash Point (2)	<140
Total RCRA 8 Metals	Note (3)

Notes:

(1) Less than or equal to 2, or, greater than or equal to 12.5

(2) Less than 140

(3) Disposal facilities may have total metals limits for certain metals.

TABLE 2
PIPE STAGING AREA SOIL STANDARDS

VOCs (1)	Industrial RBC (mg/kg)	Residential RBC (mg/kg)	SSL (mg/kg)	
1,1,1-Trichloroethane	290,000	22,000	32	
1,1-Dichloroethane	200,000	16,000	5.1	
1,1-Dichloroethene	51,000	3,900	2.9	
Methylene Chloride	380	85	0.019	
Total Metals (2)	Industrial RBC (mg/kg)	Residential RBC (mg/kg)	SSL (mg/kg)	Background (mg/kg)
Antimony	410	31	13	Note (6)
Arsenic (3)	1.9	0.43	0.026	5.0
Barium	200,000	16,000	6,000	Note (6)
Beryllium	2,000	160	1,200	Note (6)
Cadmium	510	39	27	Note (6)
Chromium (4)	1,500,000	125,000	2.0E+09	Note (6)
Cobalt	No Standard	No Standard	No Standard	Note (6)
Copper	41,000	3,100	11,000	26.6
Lead (5)	No Standard	No Standard	No Standard	46.4
Mercury	6.0 Note (7)	6.0 Note (7)	No Standard	0.06
Nickel	20,000	1,600	No Standard	Note (6)
Selenium	5,100	390	19	0.107
Silver	5,100	390	31	Note (6)
Thallium	72	5.5	3.6	Note (6)
Tin	610,000	47,000	No Standard	Note (6)
Vanadium	1,000	78	730	Note (6)
Zinc	310,000	23,000	14,000	92.9

Notes:

(1) The four main chemicals of concern are listed below.

(2) The metals detected in the process pipe residue are listed below.

(3) Site-specific background determined by Partners.

(4) The standards shown are for Chromium III.

(5) Henrico County background from data published by the USGS.

(6) The Henrico County USGS data does not include background values for these metals. Other published data will be consulted, if needed.

(7) Screening value for mercury suggested by the USEPA for this work plan.

APPENDIX A SUMMARY TABLE OF DECOMMISSIONING ANALYTICAL RESULTS – 2002

System #1 and #2 Pipe Runs

Listed below are those pipes which were tested after cleaning for parameters identified by Viasystems. Metals were selected based upon prior use in the process chemistry employed by Viasystems.

Pipe ID	Line Size(s)	Former use	Parameters	RCRA or Other Limit	Result (Total metal)
141 East	4"	Chrome solutions	pH Copper Chromium	pH: 2<pH<12.5 ----- < 5 mg/L	pH: 7.38 0.754 mg/L 0.109 mg/L
142 East	10"	Dilute acid/alkali rinses from chemical processes **Note - an additional test for lead was performed using the TCLP method to determine whether the sample would fail the RCRA limit for disposal	pH Copper Chromium Lead (total) Lead (TCLP) Nickel Silver Zinc Tin	pH: 2<pH<12.5 ----- < 5 mg/L < 5 mg/L < 5 mg/L ----- < 5 mg/L ----- -----	pH: 7.37 5.0 mg/L 0.549 mg/L 6.93 mg/L** 1.06 mg/L 0.059 mg/L 0.036 mg/L 0.715 mg/L 7.19 mg/L
142 North East	10"	Dilute acid/alkali rinses from chemical processes	pH Copper Chromium Lead Nickel Silver Zinc Tin	pH: 2<pH<12.5 ----- < 5 mg/L < 5 mg/L ----- < 5 mg/L ----- -----	pH: 7.39 0.60 mg/L 0.032 mg/L 0.297 mg/L 0.024 mg/L <0.02 mg/L 0.334 mg/L 1.13 mg/L
144 East	6"	Aqueous developers, strippers and their rinses	pH Copper Chromium Lead Nickel Silver Zinc Tin	pH: 2<pH<12.5 ----- < 5 mg/L < 5 mg/L ----- < 5 mg/L ----- -----	pH: 8.86 2.68 mg/L 0.037 mg/L 0.831 mg/L 0.048 mg/L 0.05 mg/L 0.683 mg/L 2.67 mg/L
145 East	3"	Bright dip baths, hydrogen peroxide/sulfuric solutions	pH Copper Chromium Lead Nickel Silver Zinc Tin	pH: 2<pH<12.5 ----- < 5 mg/L < 5 mg/L ----- < 5 mg/L ----- -----	pH: 7.4 1.18 mg/L 0.296 mg/L 0.467 mg/L <0.02 mg/L 0.044 mg/L 0.345 mg/L 1.94 mg/L
146 East	4"	Concentrated acid baths	pH Copper Chromium Lead Nickel Silver Zinc Tin	pH: 2<pH<12.5 ----- < 5 mg/L < 5 mg/L ----- < 5 mg/L ----- -----	pH: 7.50 2.90 mg/L 0.344 mg/L 1.51 mg/L 0.042 mg/L 0.057 mg/L 0.439 mg/L 4.3 mg/L
147 East	8"	Chemical area floor collection in Buildings 32/38, Hydroxide & permanganate solutions	pH Copper Chromium Lead Nickel Silver Zinc Tin	pH: 2<pH<12.5 ----- < 5 mg/L < 5 mg/L ----- < 5 mg/L ----- -----	pH: 7.54 3.08 mg/L 0.06 mg/L 2.62 mg/L 0.041 mg/L 0.025 mg/L 0.382 mg/L 4.08 mg/L
148 East	3"	Rainwater and fuel oil from #4 fuel oil storage tank/tanker skirt	O&G	-----	182 mg/L
149 East	6"	Aqueous developers, strippers and their rinses	pH Copper Chromium Lead Nickel Silver Zinc Tin	pH: 2<pH<12.5 ----- < 5 mg/L < 5 mg/L ----- < 5 mg/L ----- -----	pH: 7.39 1.01 mg/L 0.156 mg/L 0.665 mg/L 0.041 mg/L 0.036 mg/L 0.419 mg/L 1.94 mg/L

Pipe ID	Line Size(s)	Former use	Parameters	RCRA or Other Limit	Result (Total metal)
41 West	4"	Chrome solutions	pH Copper Chromium	pH: 2<pH<12.5 ----- < 5 mg/L	pH: 7.08 0.74 mg/L <0.02 mg/L
42 West	10"	Dilute acid/alkali rinses from chemical processes	pH Copper Chromium Lead Nickel Silver Zinc Tin	pH: 2<pH<12.5 ----- < 5 mg/L < 5 mg/L ----- < 5 mg/L ----- -----	pH: 7.07 0.47 mg/L <0.02 mg/L 0.077 mg/L <0.02 mg/L <0.02 mg/L 0.619 mg/L <0.50 mg/L
42 North West	10"	Dilute acid/alkali rinses from chemical processes	pH Copper Chromium Lead Nickel Silver Zinc Tin	pH: 2<pH<12.5 ----- < 5 mg/L < 5 mg/L ----- < 5 mg/L ----- -----	pH: 7.12 18.8 mg/L 0.021 mg/L 2.21 mg/L 0.087 mg/L <0.02 mg/L 1.865 mg/L <0.50 mg/L
44 West	3"	Aqueous developers, strippers and their rinses, Soap Treatment System filtrate	pH Copper Chromium Lead Nickel Silver Zinc Tin	pH: 2<pH<12.5 ----- < 5 mg/L < 5 mg/L ----- < 5 mg/L ----- -----	pH: 6.73 0.177 mg/L <0.02 mg/L 0.062 mg/L 0.023 mg/L <0.02 mg/L 0.174 mg/L <0.50 mg/L
45 West	3"	Bright dip baths	pH Copper Chromium Lead Nickel Silver Zinc Tin	pH: 2<pH<12.5 ----- < 5 mg/L < 5 mg/L ----- < 5 mg/L ----- -----	pH: 6.99 0.083 mg/L <0.02 mg/L 0.077 mg/L <0.02 mg/L <0.02 mg/L 0.167 mg/L <0.50 mg/L
46 West	4"	Concentrated acid baths	pH Copper Chromium Lead Nickel Silver Zinc Tin	pH: 2<pH<12.5 ----- < 5 mg/L < 5 mg/L ----- < 5 mg/L ----- -----	pH: 6.85 0.176 mg/L <0.02 mg/L 0.069 mg/L 0.027 mg/L <0.02 mg/L 0.43 mg/L 1.32 mg/L
47 West	8"	Chemical area floor collection in Building 30	pH Copper Chromium Lead Nickel Silver Zinc Tin	pH: 2<pH<12.5 ----- < 5 mg/L < 5 mg/L ----- < 5 mg/L ----- -----	pH: 6.83 19.3 mg/L 0.20 mg/L 3.32 mg/L 0.136 mg/L 0.181 mg/L 0.478 mg/L 2.46 mg/L
48 West	3"	Solvent laden rinse waters during time of solvent use 1973-1990	VOC's Chloroform 1,1-dichloroethane methylene chloride 1,1,1-trichloroethane	----- ----- ----- ----- -----	----- 0.015 mg/L 0.02 mg/L 0.151 mg/L 0.025 mg/L
49 West	6"	Aqueous developers, strippers and their rinses, Soap Treatment System filtrate, (dilute chromium rinses when plumbed to Chrome Treat system)	pH Copper Chromium Lead Nickel Silver Zinc Tin	pH: 2<pH<12.5 ----- < 5 mg/L < 5 mg/L ----- < 5 mg/L ----- -----	pH: 7.05 0.086 mg/L <0.02 mg/L 0.157 mg/L <0.02 mg/L <0.02 mg/L 0.170 mg/L <0.50 mg/L

APPENDIX B MAY 2006 LABORATORY REPORT

Viasystems Richmond Works
Pipe Testing - May 2006

Pipe ID	Line Size (inches)	Former Use	Parameter	RCRA Limit mg/kg	Results (Total metals) mg/kg	Results (TCLP metals) mg/kg L
141 East	4	Chrome Solutions	pH (field)	<2 or >12	pH 5 - 8	
			Arsenic	5.0	BDL	BDL
			Barium	100.0	530	1.97
			Cadmium	1.0	BDL	BDL
			Chromium	5.0	260	BDL
			Lead	5.0	BDL	BDL
			Mercury	0.2	BDL	BDL
			Selenium	1.0	BDL	BDL
			Silver	5.0	BDL	BDL
142 East	10	Dilute acid/ alkali rinse from chemical processes	pH (field)	<2 or >12	pH 5 - 8	
			Arsenic	5.0	BDL	BDL
			Barium	100.0	BDL	BDL
			Cadmium	1.0	BDL	BDL
			Chromium	5.0	140	BDL
			Lead	5.0	9400	BDL
			Mercury	0.2	BDL	BDL
			Selenium	1.0	BDL	BDL
			Silver	5.0	BDL	BDL
144 East	6	Aqueous developers, strippers and their rinses	pH (field)	<2 or >12	pH 5 - 8	
			Arsenic	5.0	BDL	BDL
			Barium	100.0	360	BDL
			Cadmium	1.0	BDL	BDL
			Chromium	5.0	7.1	BDL
			Lead	5.0	160	BDL
			Mercury	0.2	BDL	BDL
			Selenium	1.0	BDL	BDL
			Silver	5.0	BDL	BDL
149 East	6	Aqueous developers, strippers and their rinses	pH (field)	<2 or >12	pH 5 - 8	
			Arsenic	5.0	BDL	BDL
			Barium	100.0	3800	9.11
			Cadmium	1.0	BDL	BDL
			Chromium	5.0	BDL	BDL
			Lead	5.0	BDL	BDL
			Mercury	0.2	0.194	BDL
			Selenium	1.0	BDL	BDL
			Silver	5.0	BDL	BDL
42 West	10	Dilute acid/ alkali rinse from chemical processes	pH (field)	<2 or >12	pH 5 - 8	
			Arsenic	5.0	BDL	BDL
			Barium	100.0	BDL	BDL
			Cadmium	1.0	BDL	BDL
			Chromium	5.0	150	BDL
			Lead	5.0	1300	BDL
			Mercury	0.2	BDL 0.374	BDL
			Selenium	1.0	BDL	BDL
			Silver	5.0	210	BDL
42 Northwest (sample labeled as 42 Northeast)	10	Dilute acid/ alkali rinse from chemical processes	pH (field)	<2 or >12	pH 5 - 8	
			Arsenic	5.0	BDL	BDL
			Barium	100.0	110	BDL
			Cadmium	1.0	BDL	BDL
			Chromium	5.0	1600	BDL
			Lead	5.0	11000	BDL
			Mercury	0.2	0.449	BDL
			Selenium	1.0	96	BDL
			Silver	5.0	BDL	BDL



LABORATORIES, INC.®

2109A North Hamilton Street • Richmond, Virginia 23230 • Tel: (804) 358-8295 Fax: (804) 358-8297

Certificate of Analysis

Final Report

Laboratory Order ID 06040350

Client Name: Earth Tech, Inc.- Richmond
7870 Villa Park Drive, Suite 400
Richmond, VA 23228

Date Sampled: April 26, 2006
Date Received: April 26, 2006
Date Issued: May 03, 2006

Submitted To: Eric Hamilton

Project Number: NA

Client Proj I.D. Richmond Works

Purchase Order: NA

Sample I.D.: 0406-L144

Laboratory Sample I.D.: 06040350-001

Parameter	Method	Sample Results	LOQ	Analysis Date/Time	Analyst
Arsenic	SW6010B	1.3 mg/kg	0.500	04/28/06 10:52	CGT
Barium	SW6010B	360 mg/kg	0.500	04/28/06 10:52	CGT
Cadmium	SW6010B	< 0.5 mg/kg	0.500	04/28/06 10:52	CGT
Chromium	SW6010B	7.1 mg/kg	0.500	04/28/06 10:52	CGT
Lead	SW6010B	160 mg/kg	0.500	04/28/06 10:52	CGT
Mercury	SW7471A	0.299 mg/kg	0.008	05/02/06 11:22	DMH
Selenium	SW6010B	< 2.5 mg/kg	2.5	04/28/06 10:52	CGT
Silver	SW6010B	< 0.5 mg/kg	0.500	04/28/06 10:52	CGT

Ted Soyars

Laboratory Manager



2109A North Hamilton Street • Richmond, Virginia 23230 • Tel: (804) 358-8295 Fax: (804) 358-8297

Certificate of Analysis**Final Report****Laboratory Order ID 06050148**

Client Name: Earth Tech, Inc.- Richmond
7870 Villa Park Drive, Suite 400
Richmond, VA 23228

Date Sampled: April 26, 2006
Date Received: May 09, 2006
Date Issued: May 16, 2006

Submitted To: Eric Hamilton

Project Number: NA

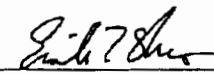
Client Proj I.D. Richmond Works

Purchase Order: NA

Sample I.D.: 0406-L144

Laboratory Sample I.D.: 06050148-001

Parameter	Method	Sample Results	LOQ	Analysis Date/Time	Analyst
TCLP pH	SW1311	9.7 SU	-	05/09/06 17:00	MRB
TCLP Extraction Fluid	SW1311	#2	--	05/09/06 17:00	MRB
TCLP Arsenic	SW6010B	< 0.1 mg/L	0.100	05/11/06 14:29	CGT
TCLP Barium	SW6010B	1.28 mg/L	0.500	05/11/06 14:29	CGT
TCLP Cadmium	SW6010B	< 0.1 mg/L	0.100	05/11/06 14:29	CGT
TCLP Chromium	SW6010B	< 0.1 mg/L	0.100	05/11/06 14:29	CGT
TCLP Lead	SW6010B	< 0.1 mg/L	0.100	05/11/06 14:29	CGT
TCLP Mercury	SW7470A	< 0.008 mg/L	0.008	05/10/06 13:18	DMH
TCLP Selenium	SW6010B	< 2.5 mg/L	2.50	05/11/06 14:29	CGT
TCLP Silver	SW6010B	< 0.1 mg/L	0.100	05/11/06 14:29	CGT


Ted Soyars

Laboratory Manager



Re Log

2109A NORTH HAMILTON STREET
 RICHMOND, VIRGINIA 23230
 (804) 358-8295 PHONE
 (804) 358-8297 FAX

CHAIN OF CUSTODY

PAGE 1 OF 1

CLIENT NAME: <u>Earth Tech</u>										PROJECT NAME: <u>Agere</u>									
CLIENT CONTACT: <u>Eric Hamilton</u>										SITE NAME: <u>Richmond Works</u>									
CLIENT ADDRESS: <u>7870 Villa Park Dr.</u>										PROJECT NUMBER: <u>Forest City</u>									
CLIENT PHONE NUMBER: <u>804-515-8414</u>										P.O. NUMBER:									
CLIENT FAX NUMBER: <u>804-515-8308</u>										REGULATORY AUTHORITY:									
Is sample for compliance reporting? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>										Is sample from a chlorinated supply? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>									
SAMPLER NAME (PRINT): <u>Eric Sturt</u>										SAMPLER SIGNATURE: <u>[Signature]</u>									
										Turn Around Time: <u>5 day</u> Day(s)									
										PWS#									
										MATRIX									
										ANALYSIS									
										COMMENTS									
CLIENT SAMPLE I.D.										Date Sampled									
										Time Sampled									
										Number of Containers									
										Grab									
										Composite									
										Field Filtered									
										Groundwater									
										Wastewater									
										Drinking Water									
										Soil									
										Solids									
										Other									
										Reagents & metals									
										TUP Metals									
										Hold for possible T-clip									
										PLEASE NOTE PRESERVATIVE(S)									
1) 0406-2144										4-26-06 1330									
2)																			
3)																			
4)																			
5)																			
6)																			
7)																			
8)																			
9)																			
10)																			
RELINQUISHED: <u>[Signature]</u>										DATE / TIME: <u>4-26-06 1440</u>									
RECEIVED: <u>[Signature]</u>										DATE / TIME: <u>4/26/06-1440</u>									
RELINQUISHED:										DATE / TIME:									
RECEIVED:										DATE / TIME:									
RELINQUISHED:										DATE / TIME:									
RECEIVED:										DATE / TIME:									

LAB

ETI-R

Richmond Works

06040350

DUE: 5 Days
 Recd: 04/26/06



Sample Conditions Checklist

ETI-R

06050148

DUE: 5 Days

Recd: 05/09/06

Opened by: (print)

TruWaters

Lab ID No.:

Date Cooler Opened:

5/10/02

(sign)

John Tatro

1. Were custody seals on outside of cooler?
2. Were custody seals unbroken and intact at the date and time of arrival?
3. Was the project identifiable from custody papers and were the custody papers filled out completely and correctly?
4. Did all bottle labels agree with custody papers?
5. Was cooler recieved on ice?
6. If yes, was the temperature less than 4 degrees Celsius?
7. Was temperature check within acceptable limits?
8. Were all samples within holding time for requested tests?
9. Are all samples in proper bottles with appropriate preservative for the analysis requested?
10. Are all volatile organic bottles free of headspace?

COMMENTS

[illegible]



2109A North Hamilton Street • Richmond, Virginia 23230 • Tel: (804) 358-8295 Fax: (804) 358-8297

Certificate of Analysis

Final Report

Laboratory Order ID 06050148

Client Name: Earth Tech, Inc.- Richmond
7870 Villa Park Drive, Suite 400
Richmond, VA 23228

Date Sampled: April 26, 2006
Date Received: May 09, 2006
Date Issued: May 16, 2006

Submitted To: Eric Hamilton

Project Number: NA

Client Proj I.D. Richmond Works

Purchase Order: NA

Sample I.D.: 0406-L144

Laboratory Sample I.D.: 06050148-001

Parameter	Method	Sample Results	LOQ	Analysis Date/Time	Analyst
TCLP pH	SW1311	9.7 SU	--	05/09/06 17:00	MRB
TCLP Extraction Fluid	SW1311	#2	--	05/09/06 17:00	MRB
TCLP Arsenic	SW6010B	< 0.1 mg/L	0.100	05/11/06 14:29	CGT
TCLP Barium	SW6010B	1.28 mg/L	0.500	05/11/06 14:29	CGT
TCLP Cadmium	SW6010B	< 0.1 mg/L	0.100	05/11/06 14:29	CGT
TCLP Chromium	SW6010B	< 0.1 mg/L	0.100	05/11/06 14:29	CGT
TCLP Lead	SW6010B	< 0.1 mg/L	0.100	05/11/06 14:29	CGT
TCLP Mercury	SW7470A	< 0.008 mg/L	0.008	05/10/06 13:18	DMH
TCLP Selenium	SW6010B	< 2.5 mg/L	2.50	05/11/06 14:29	CGT
TCLP Silver	SW6010B	< 0.1 mg/L	0.100	05/11/06 14:29	CGT


Ted Soyars

Laboratory Manager



Re Log

2109A NORTH HAMILTON STREET
RICHMOND, VIRGINIA 23231
(804) 358-8295 PHONE
(804) 358-8297 FAX

CHAIN OF CUSTODY

PAGE 1 OF 1

CLIENT NAME: <u>Earth Tech</u>	PROJECT NAME: <u>Agere</u>
CLIENT CONTACT: <u>Eric Hamilton</u>	SITE NAME: <u>Richmond Works</u>
CLIENT ADDRESS: <u>7870 Villa Park Dr.</u>	PROJECT NUMBER: <u>Forest City</u>
CLIENT PHONE NUMBER: <u>804-515-8414</u>	P.O. NUMBER:
CLIENT FAX NUMBER: <u>804-515-8308</u>	REGULATORY AUTHORITY:

Is sample for compliance reporting? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Is sample from a chlorinated supply? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	PWS#
---	--	------

SAMPLER NAME (PRINT): <u>Eric Stout</u>	SAMPLER SIGNATURE: <u>[Signature]</u>	Turn Around Time: <u>5 day</u> Day(s)
---	---------------------------------------	---------------------------------------

CLIENT SAMPLE I.D.	Date Sampled	Time Sampled	Number of Containers	MATRIX										ANALYSIS						COMMENTS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
				Grab	Composite	Field Filtered	Groundwater	Wastewater	Drinking Water	Soil	Solids	Other																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
1) 0406-2144	4-26-06	1330	1	X								X																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								

RELINQUISHED: <u>[Signature]</u>	DATE / TIME: <u>4-26-06 1440</u>	RECEIVED: <u>[Signature]</u>	DATE / TIME: <u>4/26/06-1440</u>	LAB: <u>ETI-R</u>	06040350
RELINQUISHED:	DATE / TIME:	RECEIVED:	DATE / TIME:	Richmond Works	DUE: 5 Days
RELINQUISHED:	DATE / TIME:	RECEIVED:	DATE / TIME:		Recd: 04/26/06

ETI-R

06050148

DUE: 5 Days

Recd: 05/09/06

Sample Conditions Checklist

Opened by: (print)

Jill Waters

Lab ID No.:

Date Cooler Opened:

5/10/06

(sign)

Jill Waters

- | | YES | NO | N/A |
|--|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Were custody seals on outside of cooler? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Were custody seals unbroken and intact at the date and time of arrival? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Was the project identifiable from custody papers and were the custody papers filled out completely and correctly? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Did all bottle labels agree with custody papers? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Was cooler recieved on ice? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. If yes, was the temperature less than 4 degrees Celsius? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Was temperature check within acceptable limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Were all samples within holding time for requested tests? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Are all samples in proper bottles with appropriate preservative for the analysis requested? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Are all volatile organic bottles free of headspace? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

COMMENTS



2109A North Hamilton Street • Richmond, Virginia 23230 • Tel: (804) 358-8295 Fax: (804) 358-8297

Certificate of Analysis

Final Report

Laboratory Order ID 06050016

Client Name: Earth Tech, Inc.- Richmond
7870 Villa Park Drive, Suite 400
Richmond, VA 23228

Date Sampled: May 01, 2006
Date Received: May 01, 2006
Date Issued: May 15, 2006

Submitted To: Eric Hamilton

Project Number: 93004

Client Proj I.D. Viasystems

Purchase Order: NA

Sample I.D.: 149 East

Laboratory Sample I.D.: 06050016-003

Parameter	Method	Sample Results	LOQ	Analysis Date/Time	Analyst
TCLP pH	SW1311	8.4 SU	--	05/11/06 17:00	MRB
TCLP Extraction Fluid	SW1311	#2	--	05/11/06 17:00	MRB
Arsenic	SW6010B	< 68 mg/kg	68	05/05/06 10:46	CGT
Barium	SW6010B	3800 mg/kg	68	05/05/06 10:46	CGT
Cadmium	SW6010B	< 68 mg/kg	68	05/05/06 10:46	CGT
Chromium	SW6010B	< 68 mg/kg	68	05/05/06 10:46	CGT
Lead	SW6010B	< 68 mg/kg	68	05/05/06 10:46	CGT
Mercury	SW7471A	0.194 mg/kg	0.110	05/08/06 10:47	DMH
Selenium	SW6010B	< 340 mg/kg	340	05/05/06 10:46	CGT
Silver	SW6010B	< 68 mg/kg	68	05/05/06 10:46	CGT
All concentrations have been reported based on dry weight.					
TCLP Arsenic	SW6010B	< 0.1 mg/L	0.100	05/15/06 14:22	CGT
TCLP Barium	SW6010B	9.11 mg/L	0.500	05/15/06 14:22	CGT
TCLP Cadmium	SW6010B	< 0.1 mg/L	0.100	05/15/06 14:22	CGT
TCLP Chromium	SW6010B	< 0.1 mg/L	0.100	05/15/06 14:22	CGT
TCLP Lead	SW6010B	< 0.1 mg/L	0.100	05/15/06 14:22	CGT
TCLP Mercury	SW7470A	< 0.008 mg/L	0.008	05/15/06 11:10	DMH
TCLP Selenium	SW6010B	< 0.25 mg/L	0.250	05/15/06 14:22	CGT
TCLP Silver	SW6010B	< 0.1 mg/L	0.100	05/15/06 14:22	CGT



LABORATORIES, INC.®

2109A North Hamilton Street • Richmond, Virginia 23230 • Tel: (804) 358-8295 Fax: (804) 358-8297

Certificate of Analysis**Final Report****Laboratory Order ID 06050016**

Client Name: Earth Tech, Inc.- Richmond
7870 Villa Park Drive, Suite 400
Richmond, VA 23228

Date Sampled: May 01, 2006
Date Received: May 01, 2006
Date Issued: May 15, 2006

Submitted To: Eric Hamilton

Project Number: 93004

Client Proj I.D. Viasystems

Purchase Order: NA

Sample I.D.: 142 East

Laboratory Sample I.D.: 06050016-004

Parameter	Method	Sample Results	LOQ	Analysis Date/Time	Analyst
TCLP pH	SW1311	5.2 SU	--	05/11/06 17:00	MRB
TCLP Extraction Fluid	SW1311	#1	--	05/11/06 17:00	MRB
Arsenic	SW6010B	< 64 mg/kg	64	05/05/06 10:46	CGT
Barium	SW6010B	< 64 mg/kg	64	05/05/06 10:46	CGT
Cadmium	SW6010B	< 64 mg/kg	64	05/05/06 10:46	CGT
Chromium	SW6010B	140 mg/kg	64	05/05/06 10:46	CGT
Lead	SW6010B	9400 mg/kg	64	05/05/06 10:46	CGT
Mercury	SW7471A	< 0.103 mg/kg	0.103	05/08/06 10:50	DMH
Selenium	SW6010B	< 320 mg/kg	320	05/05/06 10:46	CGT
Silver	SW6010B	< 64 mg/kg	64	05/05/06 10:46	CGT
All concentrations have been reported based on dry weight.					
TCLP Arsenic	SW6010B	< 0.1 mg/L	0.100	05/15/06 13:55	CGT
TCLP Barium	SW6010B	< 0.5 mg/L	0.500	05/15/06 13:55	CGT
TCLP Cadmium	SW6010B	< 0.1 mg/L	0.100	05/15/06 13:55	CGT
TCLP Chromium	SW6010B	< 0.1 mg/L	0.100	05/15/06 13:55	CGT
TCLP Lead	SW6010B	< 0.1 mg/L	0.100	05/15/06 13:55	CGT
TCLP Mercury	SW7470A	< 0.008 mg/L	0.008	05/15/06 10:48	DMH
TCLP Selenium	SW6010B	< 0.25 mg/L	0.250	05/15/06 13:55	CGT
TCLP Silver	SW6010B	< 0.1 mg/L	0.100	05/15/06 13:55	CGT



2109A North Hamilton Street • Richmond, Virginia 23230 • Tel: (804) 358-8295 Fax: (804) 358-8297

Certificate of Analysis

Final Report

Laboratory Order ID 06050016

Client Name: Earth Tech, Inc.- Richmond
7870 Villa Park Drive, Suite 400
Richmond, VA 23228

Date Sampled: May 01, 2006
Date Received: May 01, 2006
Date Issued: May 15, 2006

Submitted To: Eric Hamilton

Project Number: 93004

Client Proj I.D. Viasystems

Purchase Order: NA

Sample I.D.: 42 West

Laboratory Sample I.D.: 06050016-001

Parameter	Method	Sample Results	LOQ	Analysis Date/Time	Analyst
TCLP pH	SW1311	4.4 SU	--	05/11/06 17:00	MRB
TCLP Extraction Fluid	SW1311	#1	--	05/11/06 17:00	MRB
Arsenic	SW6010B	< 58 mg/kg	58	05/05/06 10:46	CGT
Barium	SW6010B	< 58 mg/kg	58	05/05/06 10:46	CGT
Cadmium	SW6010B	< 58 mg/kg	58	05/05/06 10:46	CGT
Chromium	SW6010B	150 mg/kg	58	05/05/06 10:46	CGT
Lead	SW6010B	1300 mg/kg	58	05/05/06 10:46	CGT
Mercury	SW7471A	0.334 mg/kg	0.094	05/08/06 11:14	DMH
Selenium	SW6010B	< 290 mg/kg	290	05/05/06 10:46	CGT
Silver	SW6010B	210 mg/kg	58	05/05/06 10:46	CGT
Silver concentration is estimated--Analyte concentration too high to use current digestion amount of 1.0g/50 mL. All concentrations have been reported based on dry weight.					
TCLP Arsenic	SW6010B	< 0.1 mg/L	0.100	05/15/06 13:47	CGT
TCLP Barium	SW6010B	< 0.5 mg/L	0.500	05/15/06 13:47	CGT
TCLP Cadmium	SW6010B	< 0.1 mg/L	0.100	05/15/06 13:47	CGT
TCLP Chromium	SW6010B	< 0.1 mg/L	0.100	05/15/06 13:47	CGT
TCLP Lead	SW6010B	< 0.1 mg/L	0.100	05/15/06 13:47	CGT
TCLP Mercury	SW7470A	< 0.008 mg/L	0.008	05/15/06 10:40	DMH
TCLP Selenium	SW6010B	< 0.25 mg/L	0.250	05/15/06 13:47	CGT
TCLP Silver	SW6010B	< 0.1 mg/L	0.100	05/15/06 13:47	CGT



LABORATORIES, INC.®

2109A North Hamilton Street • Richmond, Virginia 23230 • Tel: (804) 358-8295 Fax: (804) 358-8297

Certificate of Analysis**Final Report****Laboratory Order ID 06050016**

Client Name: Earth Tech, Inc.- Richmond
7870 Villa Park Drive, Suite 400
Richmond, VA 23228

Date Sampled: May 01, 2006
Date Received: May 01, 2006
Date Issued: May 15, 2006

Submitted To: Eric Hamilton

Project Number: 93004

Client Proj I.D. Viasystems

Purchase Order: NA

Sample I.D.: 141 East

Laboratory Sample I.D.: 06050016-002

Parameter	Method	Sample Results	LOQ	Analysis Date/Time	Analyst
TCLP pH	SW1311	9.1 SU	—	05/11/06 17:00	MRE
TCLP Extraction Fluid	SW1311	#2	—	05/11/06 17:00	MRE
Arsenic	SW6010B	< 74 mg/kg	74	05/05/06 10:46	CGT
Barium	SW6010B	530 mg/kg	74	05/05/06 10:46	CGT
Cadmium	SW6010B	< 74 mg/kg	74	05/05/06 10:46	CGT
Chromium	SW6010B	260 mg/kg	74	05/05/06 10:46	CGT
Lead	SW6010B	< 74 mg/kg	74	05/05/06 10:46	CGT
Mercury	SW7471A	< 0.118 mg/kg	0.118	05/08/06 10:45	DMH
Selenium	SW6010B	< 370 mg/kg	370	05/05/06 10:46	CGT
Silver	SW6010B	< 74 mg/kg	74	05/05/06 10:46	CGT
All concentrations have been reported based on dry weight.					
TCLP Arsenic	SW6010B	< 0.1 mg/L	0.100	05/15/06 14:14	CGT
TCLP Barium	SW6010B	1.97 mg/L	0.500	05/15/06 14:14	CGT
TCLP Cadmium	SW6010B	< 0.1 mg/L	0.100	05/15/06 14:14	CGT
TCLP Chromium	SW6010B	< 0.1 mg/L	0.100	05/15/06 14:14	CGT
TCLP Lead	SW6010B	< 0.1 mg/L	0.100	05/15/06 14:14	CGT
TCLP Mercury	SW7470A	< 0.008 mg/L	0.008	05/15/06 11:02	DMH
TCLP Selenium	SW6010B	< 0.25 mg/L	0.250	05/15/06 14:14	CGT
TCLP Silver	SW6010B	< 0.1 mg/L	0.100	05/15/06 14:14	CGT



LABORATORIES, INC.®

2109A North Hamilton Street • Richmond, Virginia 23230 • Tel: (804) 358-8295 Fax: (804) 358-8297

Certificate of Analysis**Final Report****Laboratory Order ID 06050016**

Client Name: Earth Tech, Inc. - Richmond
7870 Villa Park Drive, Suite 400
Richmond, VA 23228

Date Sampled: May 01, 2006
Date Received: May 01, 2006
Date Issued: May 15, 2006

Submitted To: Eric Hamilton

Project Number: 93004

Client Proj I.D. Viasystems

Purchase Order: NA

Sample I.D.: 42 North East

Laboratory Sample I.D.: 06050016-005

Parameter	Method	Sample Results	LOQ	Analysis Date/Time	Analyst
TCLP pH	SW1311	5.3 SU	--	05/11/06 17:00	MRB
TCLP Extraction Fluid	SW1311	#1	--	05/11/06 17:00	MRB
Arsenic	SW6010B	< 85 mg/kg	85	05/05/06 10:46	CGT
Barium	SW6010B	110 mg/kg	85	05/05/06 10:46	CGT
Cadmium	SW6010B	< 85 mg/kg	85	05/05/06 10:46	CGT
Chromium	SW6010B	1800 mg/kg	85	05/05/06 10:46	CGT
Lead	SW6010B	11000 mg/kg	85	05/05/06 10:46	CGT
Mercury	SW7471A	0.449 mg/kg	0.136	05/08/06 11:17	DMH
Selenium	SW6010B	< 420 mg/kg	420	05/05/06 10:46	CGT
Silver	SW6010B	96 mg/kg	85	05/05/06 10:46	CGT
Silver concentration is estimated--Analyte concentration too high to use current digestion amount of 1.0g/50 mL. All concentrations have been reported based on dry weight.					
TCLP Arsenic	SW6010B	< 0.1 mg/L	0.100	05/15/06 13:58	CGT
TCLP Barium	SW6010B	< 0.5 mg/L	0.500	05/15/06 13:58	CGT
TCLP Cadmium	SW6010B	< 0.1 mg/L	0.100	05/15/06 13:58	CGT
TCLP Chromium	SW6010B	< 0.1 mg/L	0.100	05/15/06 13:58	CGT
TCLP Lead	SW6010B	< 0.1 mg/L	0.100	05/15/06 13:58	CGT
TCLP Mercury	SW7470A	< 0.008 mg/L	0.008	05/15/06 10:50	DMH
TCLP Selenium	SW6010B	< 0.25 mg/L	0.250	05/15/06 13:58	CGT
TCLP Silver	SW6010B	< 0.1 mg/L	0.100	05/15/06 13:58	CGT

Ted Soyars

Laboratory Manager



2109A NORTH HAMILTON STREET
 RICHMOND, VIRGINIA 23231
 (804) 358-8295 PHONE
 (804) 358-8297 FAX

CHAIN OF CUSTODY

PAGE 1 OF 1

CLIENT NAME: <u>Earth Tech</u>					PROJECT NAME: <u>Forest City</u>															
CLIENT CONTACT: <u>Eric Hamilton</u>					SITE NAME: <u>Viasystems</u>															
CLIENT ADDRESS: <u>7970 Villa Park</u>					PROJECT NUMBER: <u>93004</u>															
CLIENT PHONE NUMBER: <u>515-8414</u>					P.O. NUMBER: <u>93004</u>															
CLIENT FAX NUMBER: <u>515-8308</u>					REGULATORY AUTHORITY:															
Is sample for compliance reporting? YES <input checked="" type="radio"/> NO			Is sample from a chlorinated supply? YES <input checked="" type="radio"/> NO			PWS#														
SAMPLER NAME (PRINT): <u>Eric Hamilton</u>			SAMPLER SIGNATURE: <u>Eric Hamilton</u>			Turn Around Time: <u>5</u> Day(s)														
CLIENT SAMPLE I.D.			MATRIX			ANALYSIS			COMMENTS											
	Date Sampled	Time Sampled	Number of Containers	Grab	Composite	Field Filtered	Groundwater	Wastewater	Drinking Water	Soil	Solids	Other	RCRA metals	Trace Metals						
1) 42 West	5/1/06	1100	1	<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
2) 141 East	5/1/06	1510	1	<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
3) 149 East	5/1/06	1520	1	<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
4) 142 East	5/1/06	1515	1	<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
5) 42 North East	5/1/06	1050	1	<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
6)																				
7)																				
8)																				
9)																				
10)																				
RELINQUISHED:	DATE / TIME		RECEIVED:		DATE / TIME		LAE				ETI-R		06050016							
<u>Eric Hamilton</u>	1620/5/06		<u>2/17/06</u>		5-1-06 16:20						Viasystems									
RELINQUISHED:	DATE / TIME		RECEIVED:		DATE / TIME															
RELINQUISHED:	DATE / TIME		RECEIVED:		DATE / TIME															

DUE: 5 Days
 Recd: 05/01/06



2109A North Hamilton Street • Richmond, Virginia 23230 • Tel: (804) 358-8295 Fax: (804) 358-8297

Certificate of Analysis

Final Report

Laboratory Order ID 06070186

Client Name: Earth Tech, Inc.- Richmond
7870 Villa Park Drive, Suite 400
Richmond, VA 23228

Date Sampled: July 19, 2006
Date Received: July 19, 2006
Date Issued: July 28, 2006

Submitted To: Eric Hamilton

Project Number: 88862

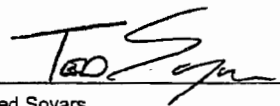
Client Site I.D.: Agere

Purchase Order: 88862

Sample I.D.: Buried Section 42W

Laboratory Sample I.D.: 06070186-001

Parameter	Method	Sample Results	LOQ	Analysis Date/Time	Analyst
TCLP Extraction Fluid	SW1311	# 1	-	07/24/06 17:40	CGT
Arsenic	SW6010B	17 mg/kg	0.500	07/24/06 14:48	CGT
Barium	SW6010B	18 mg/kg	0.500	07/24/06 14:48	CGT
Cadmium	SW6010B	2.4 mg/kg	0.500	07/24/06 14:48	CGT
Chromium	SW6010B	190 mg/kg	0.500	07/24/06 14:48	CGT
Lead	SW6010B	22000 mg/kg	0.500	07/24/06 15:13	CGT
Mercury	SW7471A	8.38 mg/kg	0.008	07/24/06 12:38	DMH
Selenium	SW6010B	< 2.5 mg/kg	2.5	07/24/06 14:48	CGT
Silver	SW6010B	> 5 mg/kg	0.500	07/24/06 14:48	CGT
TCLP Arsenic	SW6010B	< 0.1 mg/L	0.100	07/26/06 11:29	CGT
TCLP Barium	SW6010B	< 0.5 mg/L	0.500	07/26/06 11:29	CGT
TCLP Cadmium	SW6010B	< 0.1 mg/L	0.100	07/26/06 11:29	CGT
TCLP Chromium	SW6010B	< 0.1 mg/L	0.100	07/26/06 11:29	CGT
TCLP Lead	SW6010B	1.01 mg/L	0.100	07/26/06 11:29	CGT
TCLP Mercury	SW7470A	< 0.008 mg/L	0.008	07/28/06 13:42	DMH
TCLP Selenium	SW6010B	< 0.25 mg/L	0.250	07/26/06 11:29	CGT
TCLP Silver	SW6010B	< 0.1 mg/L	0.100	07/26/06 11:29	CGT


Ted Soyars

Laboratory Manager



2109A NORTH HAMILTON STREET
 RICHMOND, VIRGINIA 2323
 (804) 358-8295 PHON
 (804)358-8297 FA

CHAIN OF CUSTODY

PAGE 1 OF 1

CLIENT NAME: <u>Eric Hamilton</u>	PROJECT NAME: <u>Agere</u>
CLIENT CONTACT: <u>Earth Tech</u>	SITE NAME: <u>Agere</u>
CLIENT ADDRESS: <u>7870 Villa Park</u>	PROJECT NUMBER: <u>88862</u>
CLIENT PHONE NUMBER: <u>515-8508 8414</u>	P.O. NUMBER: <u>88862</u>
CLIENT FAX NUMBER: <u>8308</u>	REGULATORY AUTHORITY:

Is sample for compliance reporting? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Is sample from a chlorinated supply? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	PWS#
---	--	------

SAMPLER NAME (PRINT): <u>Eric Hamilton</u>	SAMPLER SIGNATURE: <u>Eric Hamilton</u>	Turn Around Time: <u>5</u> Day(s)
--	---	-----------------------------------

CLIENT SAMPLE I.D.	Date Sampled	Time Sampled	Number of Containers	MATRIX								ANALYSIS				COMMENTS
				Grab	Composite	Field Filtered	Groundwater	Wastewater	Drinking Water	Soil	Solids	Other				
1) <u>Buried section 42w</u>	<u>7/19/06</u>	<u>0900</u>	<u>1</u>	<u>X</u>							<u>X</u>	<u>X</u>				<u>held for TCLP</u>
2)																
3)																
4)																
5)																
6)																
7)																
8)																
9)																
10)																

RELINQUISHED: <u>Eric Hamilton</u>	DATE / TIME: <u>7/19/06 1000</u>	RECEIVED: <u>[Signature]</u>	DATE / TIME: <u>7/19/06 1000</u>	LAB USE ONLY	COOLER TEMP °C
RELINQUISHED:	DATE / TIME:	RECEIVED:	DATE / TIME:		
RELINQUISHED:	DATE / TIME:	RECEIVED:	DATE / TIME:		

ETI-R 06070186
 Agere DUE: 5 Days
 Recd: 07/19/06

Sample Conditions Checklist

ETI-R

Agere



06070186

DUE: 5 Days

Recd: 07/19/06

Opened by: (print)

Jessica Comstock

Lab ID No.:

Date Cooler Opened:

7/19/06

(sign)

Jessica Comstock

- | | YES | NO | N/A |
|--|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Were custody seals on outside of cooler? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Were custody seals unbroken and intact at the date and time of arrival? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Was the project identifiable from custody papers and were the custody papers filled out completely and correctly? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Did all bottle labels agree with custody papers? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Was cooler recieved on ice? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 6. If yes, was the temperature less than 4 degrees Celsius? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 7. Was temperature check within acceptable limits? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Were all samples within holding time for requested tests? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Are all samples in proper bottles with appropriate preservative for the analysis requested? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Are all volatile organic bottles free of headspace? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

COMMENTS

APPENDIX C

APRIL 24, 2007 WRITTEN NOTIFICATION OF RELEASE

Marianne Santarelli
Global Director, EH&S Assurance

1110 American Parkway NE
Room 12J310
Allentown, PA 18103

Tel: 610 712 1646
Fax: 610 712 1452
marianne.santarelli@lsi.com



Date: April 24, 2007

To: United States Environmental Protection Agency

From: Marianne Santarelli, LSI Corporation

Cc: Donald Mayer, P.E., Earth Tech
FG Pruitt Inc.
Forest City Commercial Development Inc.
Virginia Department of Environmental Quality

Subject: Release Notification at Former Lucent Technologies Richmond Works
Administrative Order, USEPA Docket No. RCRA-III-084-CA

This memorandum is respectfully submitted by LSI Corporation, the successor in interest to Agere Systems. The purpose of the memorandum is to provide written notification to the U.S. Environmental Protection Agency (EPA) of a release that occurred on Saturday, April 14, 2007, and was first observed by LSI's contractor on Monday, April 16, 2007, at the former Lucent Technologies Richmond Works site located at 4500 South Laburnum Avenue, in Richmond, Virginia. This written notification is provided pursuant to Section VI.F.1 of the Administrative Order. Oral notification to EPA was provided by voice mail on April 18 and subsequent telephone conversations on April 19, 2007.

The release occurred during unauthorized demolition activities by Hayes Demolition Services, a subcontractor to ECOR Solutions, who is subcontracted to FG Pruitt Inc., the construction contractor for the site developer, Forest City Commercial Construction Co. Two different release events occurred:

1. The discharge piping from extraction well EW9 to the groundwater treatment system (GWTS) was broken during demolition activities. The damage disabled the EW9 well pump, and broke the junction where the EW9 discharge pipe ties into the common header pipe, approximately 100 feet downstream from the demolition (within Trench 1 as shown on attached drawing). Due to the head pressure required to pump groundwater to the top of the collection tank in the

GWTS, the broken area served as the path of least resistance and all of the groundwater pumping from the active extraction wells apparently discharged through the break, causing an estimated 70,000 gallons of untreated groundwater to discharge into the concrete pipe trench and subsequently flow into a series of subsurface concrete containment structures. All released material was contained in concrete and not released into the environment.

2. Former process piping for the manufacturing facility that was known to contain sediments with heavy metals (chromium, lead, silver) was handled during removal and staging in a manner that may have released the sediments. The sediment may have been released into the concrete pipe trench or possibly in limited areas of exposed surface soils where the pipes were staged.

Both releases have been fully contained, as described below. LSI's onsite environmental contractor, Earth Tech, obtained our own water and soil samples from strategic locations to characterize the contamination and determine disposal options. Sample results are expected to be received by Wednesday, April 25, 2007, and a follow-up report will be issued at that time.

Additional specifics on the releases follow; references are made to the attached Partial Site Plan showing release, containment, and sampling locations.

Discharge of Untreated Groundwater

During normal operation of the wastewater treatment system, piping from the 18 extraction wells combines in a common header pipe that runs through the concrete pipe trench to the GWTS located in Building 31. During the unauthorized demolition activities on April 14, the piping and electrical components from EW9 were demolished in the trench adjacent to EW9 (Trench 2 as shown on attached drawing). The damage disabled the EW9 well pump, and broke the junction where the EW9 discharge pipe ties into the common header pipe, approximately 100 feet downstream from the demolition (within Trench 1). Due to the head pressure required to pump groundwater to the top of the collection tank in the GWTS, the broken area served as the path of least resistance and all of the groundwater pumping from the active extraction wells apparently discharged through the break.

LSI's on-site environmental subcontractor, Earth Tech, observed the release at approximately 7:00 AM on Monday, April 16, 2007, and the GWTS was immediately shut down. The GWTS has been discharging approximately 35,000 gallons per day over the past several months. Two days of uncontained pumping is estimated to have resulted in the release of approximately 70,000 gallons of untreated groundwater into the subsurface containment areas.

Storm water collects in the subsurface concrete pipe trenches and flows to the low point of the trenches, located in the vicinity of the pipe break (Trench 1). At the time of the release, several feet of standing water were contained in the pipe trench as well as the former water treatment structures that are connected to the trenches. Based on the color of the water observed in the pipe trench in the vicinity of the release, the similar yellow tint

of several of the adjacent containment structures (former on-site water treatment structures), and the observation of water flow, the release was assumed to have extended to these structures (labeled Tank 1, 2, and 3 on the attached drawing). Samples were obtained from the water in Trench 1 and Trench 2, as well as each of these three containment structures where discoloration was observed, and are being analyzed for volatile organic compounds (VOCs) using EPA Method SW8260B (standard analytical method for this site). Disposal options will be evaluated after the analytical results have been received; options include direct discharge to the Henrico County sanitary sewer, pre-treatment prior to sanitary discharge, or off-site hauling and disposal at an approved facility.

Contaminated Sediment Management

During planning for the demolition phase of site redevelopment, sediments were observed within several of the former process pipes located within the concrete pipe trenches. Previous analytical results indicated that six of the pipes contained hazardous metallic residue. These pipes were to have been removed, contained, and disposed of by a qualified environmental contractor prior to full-scale demolition of the pipe trenches. The previous analytical results showed that the pipe residue was not hazardous waste, as all parameters were below toxicity characteristic leaching procedure (TCLP) limits for hazardous substances.

The piping includes two 10-inch steel lines that run from the former manufacturing building to the former wastewater treatment plant through the demolished areas referenced above (shown as Trenches 1, 2, and 3 on the attached drawing). Labels reading "dilute acid/alkali rinse from chemical processes" were observed on these pipes. Previous analytical results from the sediment within the subject pipes showed levels of lead up to 11,000 milligrams per kilogram (mg/kg), chromium up to 1,600 mg/kg, as well as silver, barium, selenium, and mercury.

Some time during the day on Saturday, April 14, 2007, several hundred linear feet of these pipes were removed by Hayes Demolition Services using mechanical means (shears/grapples) and staged in 10- to 12-foot-long sections on the ground adjacent to Pipe Trench 3. When these pipes were observed by Earth Tech personnel on the following Monday (April 16, 2007), they were uncovered and uncontained on the bare ground. The means of demolition would have caused some of the sediment to discharge into the concrete pipe trenches during removal. On Tuesday (April 17, 2007), the demolition contractor placed trash bags on the exposed ends of the pipes, secured the bags with duct tape, and stacked the pipe in a staging area adjacent to the initial staging area. They also placed orange safety fence around both the original and the new staging areas. Based on guidance provided by Earth Tech, the plastic bags were replaced with 6-mil polyethylene sheeting secured with duct tape, and the pipes were staged on and covered with 6-mil polyethylene sheeting for containment. This work was performed on April 20 and 21, 2007.

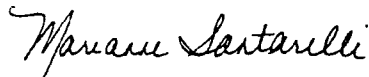
Earth Tech collected its own samples of standing water in Pipe Trenches 1 and 2, which may have been impacted by the sediments. Sediment samples were also obtained from each of the three trenches that were potentially impacted by pipe demolition, as well as from the soil located in the staging area for the contaminated pipe. All samples will be

analyzed for RCRA metals using EPA Method SW6010B (SW7471A for mercury); management and disposal options will be evaluated upon receipt of laboratory analyses. Results should be available by the end of the day on April 25, 2007.

Conclusion

Upon learning of the incident, our contractor, Earth Tech, immediately ceased the operation of the GWTS and notified Forest City management of the incident. Earth Tech also provided technical support to ECOR Solutions regarding proper containment of the sediment containing pipes.

Additional information may be provided upon request, including the demolition contractor's approach to addressing the issues caused by these releases, as well as photographs of the demolition, containment, staging areas, and sample locations referenced herein. Analytical results and management/disposal information will be provided as the lab results become available and a disposal strategy is developed. As always, please feel free to call me with any questions, comments, or additional information that may be required.



Marianne Santarelli
LSI Corporation

APPENDIX D

SUMMARY TABLE OF APRIL 2007 ANALYTICAL RESULTS

Table 1
Summary of Analytical Sampling
Sediment and Soil
Trench and Staging Area
Shops at White Oak Village
Forest City Enterprises, L.L.C.

												EPA Region III Risk-Based Concentrations	
		Sample ID Trench 1 (Sediment)		Sample ID Trench 2 (Sediment)		Sample ID Trench 3 (Sediment)		Sample ID Staging Area (Surface Soil)		Sample ID 42 West (Pipe Residuals)	Sample ID 42 NW (Pipe Residuals)		
Contaminant of Concern	CAS No.	Sample Result EarthTech (mg/kg)	Sample Result Pruitt/ECOR (mg/kg)	Sample Result EarthTech (mg/kg)	Sample Result Pruitt/ECOR (mg/kg)	Sample Result EarthTech (mg/kg)	Sample Result Pruitt/ECOR (mg/kg)	Sample Result EarthTech (mg/kg)	Sample Result Pruitt/ECOR (mg/kg)	Sample Result EarthTech (mg/kg)	Sample Result Earth Tech (mg/kg)	Industrial (mg/kg)	Residential (mg/kg)
Arsenic	7440382	BDL	0.928	7.050	5.150	5.660	3.310	1.670	1.170	BDL	BDL	1.900	0.430
Barium	7440393	43.100	74.200	95.300	92.200	57.000	57.100	62.100	57.900	BDL	110.000	2.000E+05	1.600E+04
Cadmium	7440439	3.740	5.580	6.480	5.400	6.280	4.920	1.990	1.810	BDL	BDL	5.100E+02	39.000
Chromium**	16065831	41.200	94.800	108.000	70.300	70.200	57.900	25.600	25.400	150.000	1600.000	1.500E+06	1.200E+05
												3.100E+03	230.000
Lead	7439921	388.000	410.000	821.000	470.000	812.000	306.000	53.000	96.300	1300.000	11000.000	800*	400*
Mercury	7439976	0.091	0.082	0.241	0.251	0.143	0.152	0.041	0.031	BDL	0.449	30.5*	2.3*
Selenium		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	96.000	5.100E+03	3.900E+02
Silver		1.440	2.570	7.350	5.580	3.600	1.460	BDL	BDL	210.000	BDL	5.100E+03	3.900E+02
Trichlorofluoromethane		NA	BDL	NA	BDL	NA	BDL	NA	BDL	NA	NA		
1,1-Dichloroethylene	75354	NA	BDL	NA	BDL	NA	BDL	NA	BDL	NA	NA		
Acetone		NA	0.181	NA	0.0947	NA	0.2030	NA	0.1330	NA	NA	9.200E+05	7.000E+04
Methylene Chloride		NA	BDL	NA	BDL	NA	BDL	NA	BDL	NA	NA		
1,1-Dichloroethane		NA	BDL	NA	BDL	NA	BDL	NA	BDL	NA	NA		
2-Butanone (MEK)		NA	BDL	NA	BDL	NA	BDL	NA	BDL	NA	NA		
1,1,1-Trichloroethane		NA	BDL	NA	BDL	NA	BDL	NA	BDL	NA	NA		
1,2-Dichloroethane	107062	NA	BDL	NA	BDL	NA	BDL	NA	BDL	NA	NA		
Trichloroethylene	79016	NA	BDL	NA	BDL	NA	BDL	NA	BDL	NA	NA		
Styrene		NA	BDL	NA	BDL	NA	BDL	NA	BDL	NA	NA		
1,2,4-Trimethylbenzene		NA	0.104	NA	BDL	NA	BDL	NA	BDL	NA	NA	Not Applicable	Not Applicable
p-Isopropyltoluene		NA	0.0835	NA	BDL	NA	BDL	NA	BDL	NA	NA	Not Applicable	Not Applicable

* = VADEQ Screening Level used. EPA Region III RBC not available.

** = RBCs listed for Chrome III and VI. Chrome VI reportedly not used at the facility.

BDL = Below Detectable Limits

NA = Not analyzed.

Exceeds Residential RBC

Exceeds Industrial and Residential RBC